NOAA Environmental Information System (NEIS) Report

DMIT
September 7th, 2011

Team
- 6 Member team created by GSD Senior Staff

NEIS Goal
- Improve access, Interoperability, and Discovery of NOAA Data.

NEIS Team Objectives
- Evaluate existing, developmental technology, and solutions relevant to concept.

- Evaluate envisioned needs of primary users.

- Assess GSD capabilities pertinent to the concept of NEIS

- Provide recommendation of how to best use GSD resources to contribute to a National capability

Interviewed/Discussed concepts with variety of groups across NOAA Line Offices

Questions Asked:
- How were people using your data?
- How are you using NOAA data yourself?
- What tools/systems/services/standards are you using?
- What related recommendations/lessons learned exist?
- What obstacles or roadblocks have you encountered with using/disseminating NOAA data?

Listened for items to help facilitate projects or help NOAA data become more interoperable.

Metadata

- Existing metadata systems contain stale or obsolete information and are not useful
    - Search for common term like wind returns 3500 results on GCMD.
    - Consumers don't know enough about data to make search useful.
- Lineage/Consistency Problems. What happened to my data?
- Feedback (broken links, data usage, etc…) to data providers non-existent.

Systems

- Data is not ready. Even if you know the source of data, it takes time to make it available.
- Many "Stovepipes" but no ability to combine data from different disciplines.
- Cross data source analytics service does not exist. Some analytics services exist but usually only for data available from that particular service.

Cultural

- Unfamiliarity with possible technology/Difficult to know what is out there and how it could help 'my' project.
- Data Stewardship/Maintenance.

We Envision:

NEIS as a framework of layered services to assist discovery, access, analysis, visualization, and more of NOAA data.

By using a layered approach, NEIS can reduce complexity providing a easy to use interface to access services as well as mechanisms to combine services to create new data or visualizations dynamically. Additionally NEIS services can be accessed directly allowing users to customize and tailor the services to suite their particular needs. NEIS allows data interoperability and improves data fusion services across applications.

Moving to this framework services model creates flexibility and extensibility of the system going forward. Rather than upgrading a system wholesale which can be time consuming, individual components can be upgraded with minimal impact on other services available within the framework.

GSD Strategy within NOAA - start first ESRL, grow to OAR laboratories

Take advantage of existing systems and architecture where we can. "Stand on the Shoulders of Giants"

ESRL Presentation and Panel Discussion. Start conversation, gather information and potential partners.

Develop quick thread (a prototype) through many NEIS concepts with the goal of having a demonstration showing integration of services of several distinct data sets (example ecology, oceans, meteorological)

GUI

- Web Based Solution Showcasing NEIS capabilities

Metadata Services

- Research GeoPortal, GeoNetwork to enhance metadata services
- Dashboard system to give feedback to providers on Metadata.

Data Access

- Work with existing data access systems ERDDAP, THREDDS, LAS.
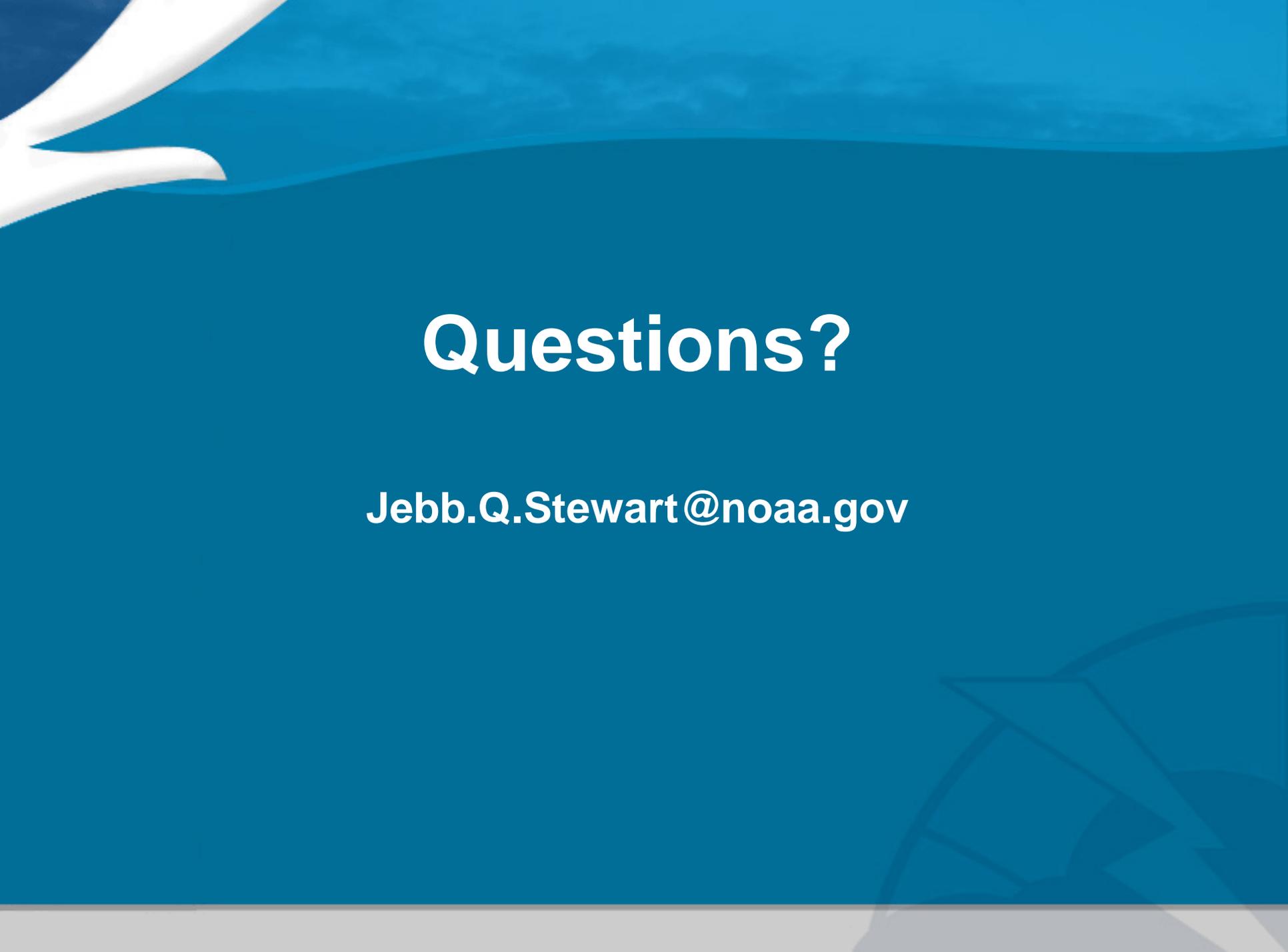 - GSD already has code to harvest information from THREDDS.

Analytics Service
- More than Logic, show impact combinations of previously uncombined data.

Workshops and Outreach
- Possibly AMS or AGU Workshop for technical discussion/round table.
- Get GSD representation on similar concept NEIS committees.

Impacts

• NOAA data ready for action. Services model facilitates agile response to events. Services can be combined or reused quickly

• Any data available through NEIS system can be operated on or combined with other data. Integrated standardized formats and access.

• New and Existing systems that understand protocol have access to wide variety of NOAA data. Any new data added, easy incorporated with minimal to no changes required.

Questions?

Jebb.Q.Stewart@noaa.gov